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PLANT IMMIGRANTS.

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Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is largely made up from notes received from agricultural explorers, foreign correspondents, cooperators, and others, relative to the more important plants which have recently been received by the Office of Foreign Seed and Plant Introduction of the Department of Agriculture; in it are also contained accounts of the behavior in America of plants previously introduced. Descriptions appearing here are revised and published later in the Inventory of Seeds and Plants Imported.

Applications from experimenters for plants or seeds described in these pages may be made to this Office at any time. As they are received the requests are placed on file and when the material is ready for the use of experimenters it is sent to those who seem best situated and best prepared to care for it. The plants or seeds here described (except such as are distributed direct or are turned over to specialists in the Department who are working on investigational problems) are propagated at our Plant Introduction Field Stations; and when ready to be distributed are listed in our annual check lists, copies of which are sent to experimenters in the late fall. It is not necessary, however, to await the receipt of these lists should one desire to apply for plants which are described herein.

One of the objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant breeders and experimenters. Every effort will be made to fill specific requests for experimental quantities of new or rare foreign seeds or plants.

David Fairchild
Agricultural Explorer in Charge,
Office of Foreign Seed and Plant Introduction

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Berberis francisci-ferdinandi (Berberidaceae), 52931.
Barberry. From Kew, England. Seeds presented by Sir David Prain, director, Royal Botanic Gardens.

A rather striking species apparently most nearly related to the Himalayan *Berberis chitria*, which is well distinguished, however, by its puberulent branchlets, longer stalked ovules, and distinct styles. The handsome shrub is 2 to 3 m. high with red young branches which become purplish, glabrous, and shining. The simple, yellowish-red spines are up to 2.5 cm. long. The papery deciduous leaves are ovate or ovate-lanceolate with marginal spines 1 to 1.5 mm. long. The yellow flowers 7 to 9 mm. in diameter are in dense panicles 5.5 to 12 cm. long. The scarlet ovate fruits are 12 mm. in diameter. Native to thickets in western China at altitudes of 1,300 to 4,000 m. (Adapted from Sargent, *Plantae Wilsonianae*, vol. 1, p. 367.)

Dioscorea sp. (Dioscoreaceae), 52927. **Yam.** From Arch Creek, Fla. Tubers presented by Mr. J. DeHoff. "I procured one tuber in 1893, when I first came to Avon Park, De Soto Co., Florida, from a neighbor, H. G. Burnett, who had in his garden a few which he had procured from his father-in-law at Fort Myers where small quantities have been grown for 50 years. I had kept seed from year to year since that time, no more though, than I wanted myself, until year before last when somehow they made several times as many seed bulbs as I ever saw before. This last year they again made only very few seed tubers. I received them under the name of 'White Jamaica yam.' I grew them for 5 years near Palatka (at Florahome) and they did well on high hammock land. Down here in Dade County, on very light sandy and rocky land they produce as much as sweet potatoes and with me, take the place of Irish potatoes; the latter will not succeed on this dry soil at all. The yams keep for months." (DeHoff.)

"A white-fleshed yam, - fairly dry when cooked, and of excellent quality. The vine produces aerial tubers which are referred to in Mr. DeHoff's letter as 'seed tubers.'" (R. A. Young.)

Leycesteria formosa (Caprifoliaceae), 52864. From Beaverton, Oreg. Plants presented by Mr. Benjamin W. Gothard. "One of the handsomest and most useful of ornamental shrubs for all sections where the temperature does not fall much below zero. It is not subject to pests, is in bloom for months, and if cut down by

severe frost, renews itself within a short time. Last winter, in sheltered situations, it endured zero temperature without injury. Here in Oregon it roots freely from hardwood cuttings in open ground when put in during November or December." (Gothard.)

A Himalayan bush, 6 feet high, allied to our Viburnums. The pink flowers backed by red bracts, are borne in dense sprays at the end of fresh wood shoots.

Lilium nepalense (Liliaceae), 52925. **Lily.** From Ootacamund, Bombay Presidency, India. Bulbs presented by Mr. F. H. Butcher, curator, Government Botanic Garden and Parks. A magnificent species of striking beauty, 1 to 3 feet high; it bears nodding bell-shaped flowers of a beautiful soft yellow, the lower half of the gracefully recurved segments being blotched with bright purple-brown and shaded with maroon. (Adapted from Journal of Horticulture and Home Farmer, 3d ser., vol. 54, p. 348.)

Malus laosensis (Malaceae), 52900. From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky, Jardin d' Acclimatation. Seeds of an interesting species of apple found growing wild on the high plateaus of Indo-China at Tranninh at an altitude of 1,500 m. and also on certain mountains of the Tonking. It is a large tree which produces fruit similar in shape, color, and flavor to certain cider pears of Normandy. A drink has been made of it, the color of which recalls the Normandy pear cider. Although this species grows in the dense forest and is uncared for by the mountain people now, it may have been cultivated and improved in the past. (Adapted from Comptes Rendus Hebdomadiers des Séances de L'Académie des Sciences, vol. 170, p. 1129.)

Passiflora resticulata (Passifloraceae), 53180. From Ibarra, Ecuador. Seeds collected by Mr. Wilson Popenoe, agricultural explorer. "No. 58 a. 'Granadilla de hueso.' A good passiflora with fruits about an inch and a half in diameter, perfectly round, and so hard that one must crack them with a hammer,- or a stone. They are just about as hard as the thin-shelled English walnuts grown in California. The fruit is of about the same flavor as that of *Passiflora edulis*." (Popenoe.)

Pleiogynium solandri (Anacardiaceae), 52897. **Burdekin plum.** From Kulara, Queensland. Seeds presented by Mr.



A DESIRABLE AUTUMN-FLOWERING HERBACEOUS PERENNIAL.

(*Helianthus angustifolius* L., S. P. I. No. 44103.)

This particular form of sunflower, of which a single branchlet is here shown, has a habit very much like that of cosmos; bears cutting very well; has excellent narrow, drooping, glossy foliage; and produces a profusion of small-headed flowers with long graceful rays. It forms a very desirable addition to a hardy border. (Photographed by E. L. Crandall, Photographic Laboratory, October 1, 1918; P24829FS.)



A PROMISING BERRY, THE TOKAN UUK OF GUATEMALA.

(*Rubus* sp., S. P. I. No. 49332.)

Mr. Wilson Popenoe, who found this berry in Alta Vera Paz, says: "It is probably the best wild *Rubus* in Guatemala. It can best be likened to the loganberry in character, yet its flavor is more nearly that of the red raspberry. The fruits are often an inch in length; in cultivation they would probably be even larger. They are borne not upon the ends of the canes but upon short fruiting laterals, and pruning would increase the number of these." (Photographed by Mr. Popenoe, Santa Cruz, Guatemala, January 8, 1920; P17704FS.)

J. A. Hamilton. A tree native to Queensland; the hard dark brown wood with red markings, resembles that of the American walnut. It is an excellent wood for the joiner or cabinetmaker, and is also suitable for turnery. (Adapted from Maiden, Useful Native Plants of Australia, p. 599.)

Polymnia edulis (Asteraceae), 52894. From Aulnay-sous-Bois, France. Tubers presented by Prof. R. de Noter, Ecole d'Acclimatation et de Recherches Agricoles. "A strong herbaceous plant, very decorative with its tall stalks 1.5 m. high, beautiful foliage, and yellow, autumnal flowers. The numerous, clustered, clean tubers are white, almost transparent, very sweet, and taste somewhat like a pear. They are eaten raw in their native country where they are keenly relished. The leaves, stalks, and tubers are greedily eaten by animals. The enormous quantity of sugar in the tubers yields three times as much alcohol as can be distilled from the Irish potato. Molasses can also be made from the tubers. A half-decayed tuber grew a plant which bore thirty-two tubers 15 to 20 cm. long, weighing 3 kg.

"This hardy plant occurs wild, and is also cultivated, in the Andes Mountains. In Algeria irrigation is necessary. In any case, half of the foliage can be used during the summer for feed. At harvest the tubers are stored in a cellar. The plant is easily lifted from the soil and is superior to the Jerusalem artichoke and the sunflower in that it leaves nothing behind." (de Noter.)

Prunus armeniaca (Amygdalaceae), 52914. Apricot. From Aleppo, Syria. Seeds presented by Mr. Digby A. Willson, vice consul in charge. "The apricot grown in the Harput (Kharpoott) district is recognized to be the most luscious and most sought-for noncitrus fruit in the Near East. In order that growers may understand the climate under which the Harput apricot is cultivated, the following information is given:

"The city of Harput is situated at about the same altitude as Denver, Colorado, and is slightly more than 5,000 feet above the sea level. During the summer, which is very hot, little water is found in the district owing to the entire lack of rain in the summer months, but the winter is extremely cold and snow storms are not infrequent. The apricot trees usually grow throughout the city in the various gardens which are irrigated from small streams supplying sufficient

water for cultivation of the trees after the spring rains. Great care is exercised in the cultivation of the Harput apricot, resulting in a delicious fruit about the size of an ordinary peach; the apricots are ripe and ready for picking about the last of May or the first of June. I am informed by many naturalized Americans from the Harput district that these apricot trees will grow in Southern California." (Wilson.)

Pterocarpus erinaceus (Fabaceae), 52912. From Ibadan, Southern Provinces, Nigeria. Seeds presented by Mr. John G. Davis, acting director of Agriculture. A more or less deciduous tree 15 to 20 m. high, with a straight trunk, spreading crown, and pubescent branchlets. The glabrous leaves are unequally pinnate. The flowers are in terminal panicles with racemose branches. The tree is found in abundance, yields a valuable and durable timber, and is the most valuable asset Mozambique Province has in its tropical forests; it produces also the African gum'kino.' The tree extends into Natal, Swaziland, the Transvaal, to the West Coast, and from the coast to the Matapos. (Adapted from Sims, Forest Flora of Portuguese East Africa, p. 44.)

Rubus chroosepalus (Rosaceae), 52942. From Kew, England. Seeds presented by Sir David Prain, director, Royal Botanic Gardens. The most valuable feature of this species is the very ornamental evergreen foliage which may be compared with that of a lime tree. The slender stems, furnished with a few spines, grow 6 to 7 feet in a season. The simple, cordate leaves, 4 inches long and 3 1/2 inches wide, are glabrous above and white beneath. The flowers are borne in large panicles and have no decorative value; the fruits are small and blue. Native to Hupeh and Ichang at altitudes of 4,000 feet. The best use for the plant is to cover pillars, pergolas, or fences. (Adapted from Gardeners' Chronicle, 3d ser., vol. 51, p. 166.)

Rubus sp. (Rosaceae), 53218. **Raspberry.** From Ecuador. Seeds collected by Mr. Wilson Popenoe, agricultural explorer."No. 602a. Upper slopes of the Volcano Tungurahua. 'Haugra-mora.' A choice, large-fruited, wild red raspberry from an altitude of 9,000 feet. Since this is found at altitudes up to 13,000 feet, it may prove hardier than many of the other species we have obtained in these countries. The fruits are much like those of the Colombian berry (*Rubus macrocarpus*) in general char-

acter but smaller and better in quality. They are about an inch and a half in length, deep red, and of very good flavor." (Popenoe.)

Sclerocarya birrea (Anacardiaceae), 52915. From Matania El Saff, Egypt. Seeds presented by Mr. A. Bircher, director, Middle-Egypt Botanic Station. A tree with narrow, glabrous, 9 to 23-foliate leaves tufted at the ends of the branches. The elliptic, entire, leathery pinnae are 2 inches in length. The globose, whitish-yellow drupes, 1 inch long, are borne singly on stout peduncles. A fermented liquid is prepared from the sweetish acid flesh. The stony nut contains 2 or 4 seeds of a walnutlike flavor. Native to upper Guinea and the Nile Land. (Adapted from Tancredi, Colonia Eritrea, p. 112.)

Notes on Behavior of Previous Introductions.

Mr. M. B. Cardou, Ogden, Utah, writes May 7, 1921:

"The Eleagnus tree (*Eleagnus angustifolia*) sent me several years ago by your Office is a marvel of beauty. It is as hardy as an oak, and when in bloom I consider it the prettiest tree in our state. Many passersby stop and ask me the name of it and where it can be bought. I call it the tree of silver and gold (from its light grayish-green leaves and yellow flowers followed by brown fruit)."

Mr. Edwin Haffenden, Loma Rica Colony, Marysville, Calif., writes May 17, 1921:

"I wish you could see the little Jordan almond tree (*Amygdalis communis*) sent me three years ago; it certainly is a marvel and I have a prize-taker if it continues to be as prolific and large fruited as it is now. It is self-fertile and just loaded with unusually large nuts."

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BUREAU OF PLANT INDUSTRY
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION
WASHINGTON, D. C.

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